Up-scaling funding mechanism for farmers: Evaluating the S.I.R. Platform's Impact on Food Waste Prevention and Economic Sustainability in Italy

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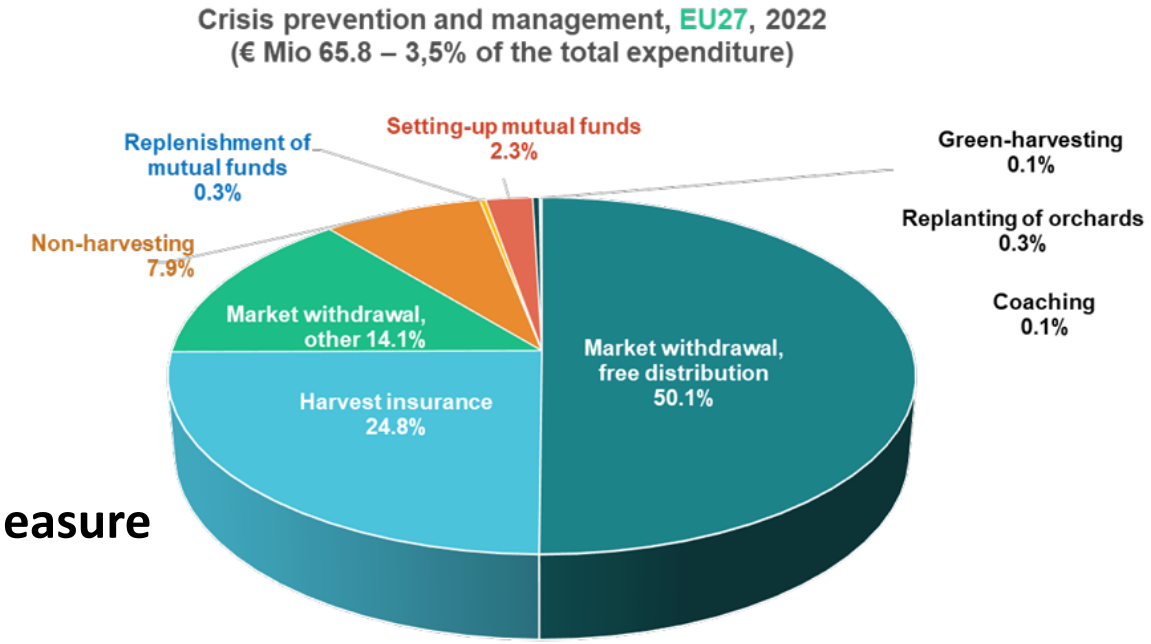
Background

Fruit & vegetable sector

- Climate + geopolitical: surplus production crisis
- Since 1972 CMO support sector resilience in EU

Producers Organization

- Pivotal agent across F&V value chain
- Operational Programs **- Crisis prevention & management measure**



POs Market Crisis EU support

- Reg.1308/2013 (CMO) -> art.33, 34, 37 d) - Crisis prevention and management measures
- Surplus destination - Food donation and Valorization
- Fixed max amount 4.5% of the POs value of the marketed production (100% vs 50%)

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Research questions

- What are the impacts related to the use of the CAP-CMO funds for the market withdrawal of fresh fruit and vegetables?
- Are the farmers the main beneficiaries of the measure or other positive externalities can be related to the policy?
- Is it possible to measure the value of the redistributed food for human consumption and the avoided cost for valorization over disposal?

The assessment is made by developing a case study in Italy based on data provided by the CAP payment agencies and the Food prevention Tool developed by the European Commission

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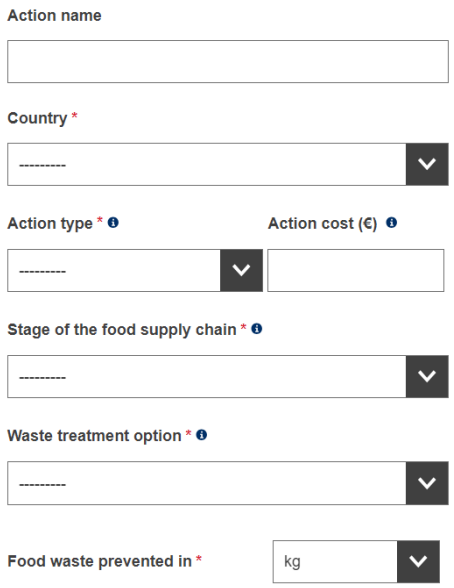
Tool-box

- The **Food waste prevention calculator** provided by the European Commission (DG SANTE) can be used, to assess the **nutritional benefits**, the net **economic savings**, and net **environmental savings** calculated using a black box based on the LCA methodology.



Available at: https://knowledge4policy.ec.europa.eu/visualisation/food-waste-prevention-calculator_en

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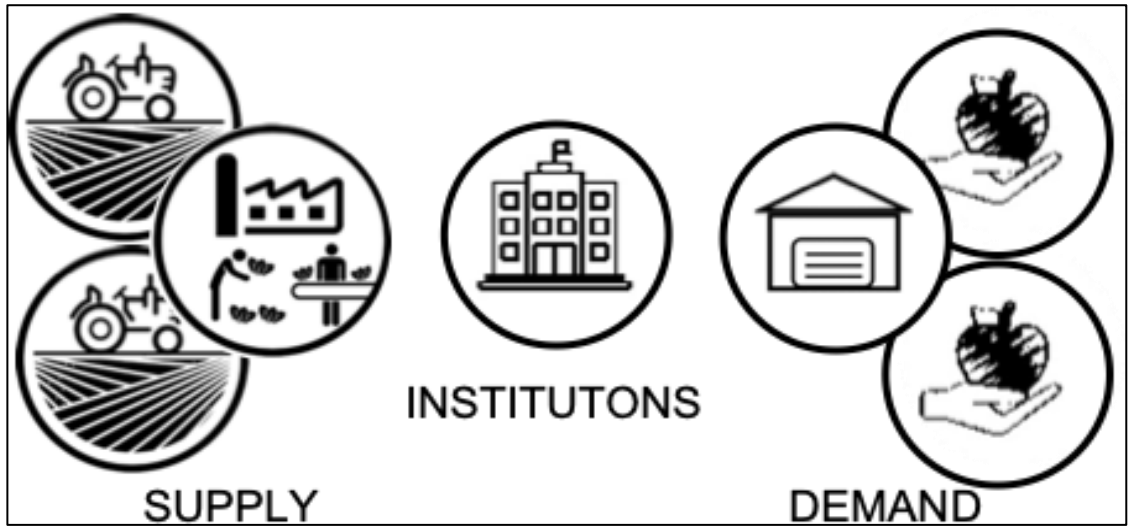
Case study in Italy

Context: Italian fresh F&V sector, 620 billion €
- 25 M tons (2022)
-> 27% of F&V POs used market withdrawal measure.

S.I.R. platform: Software to facilitate the FV redistribution/valorization.

S.I.R. provided by Emilia - Romagna Region
-> 10% of FV POs in Italy



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THE S.I.R. PLATFORM DATA

Performance for the period 2014 – 2020

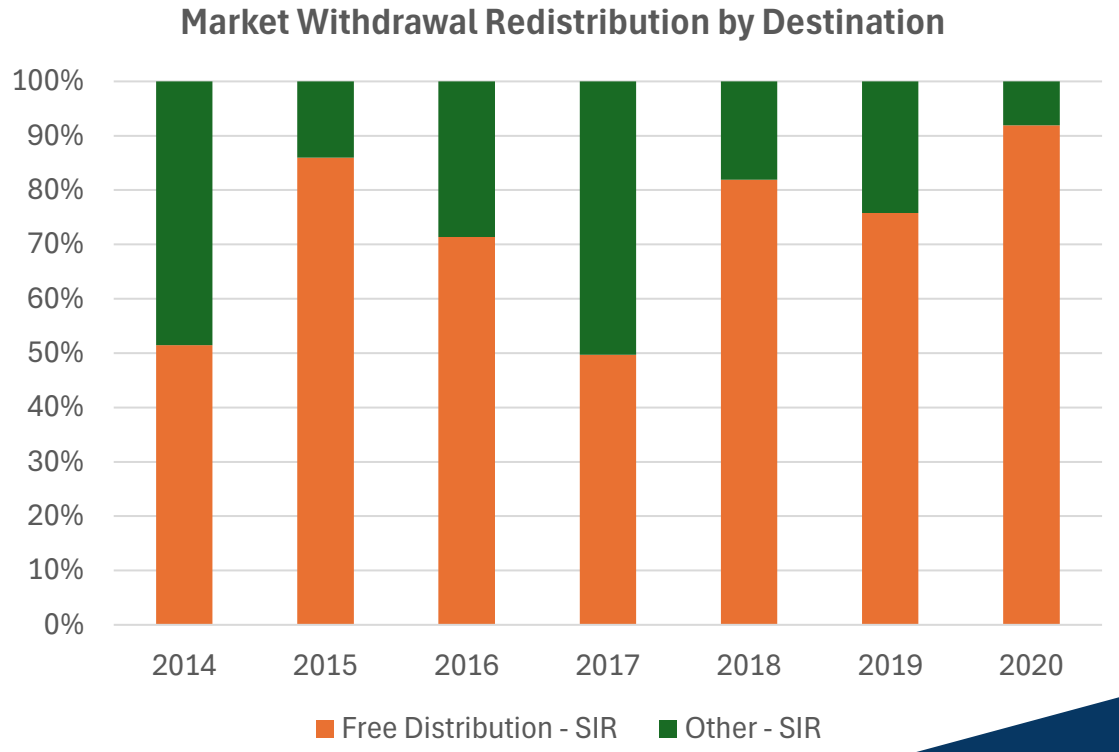
Partecipation: 49 POs from 9 Italian regions

Volume: 179,000 tons of FV products withdrawn

Destination: 75% redistributed to charities, the remaining fraction to valorization actions

Products: 40 categories of FV products

Value: € 10 M of funds from CMO per year



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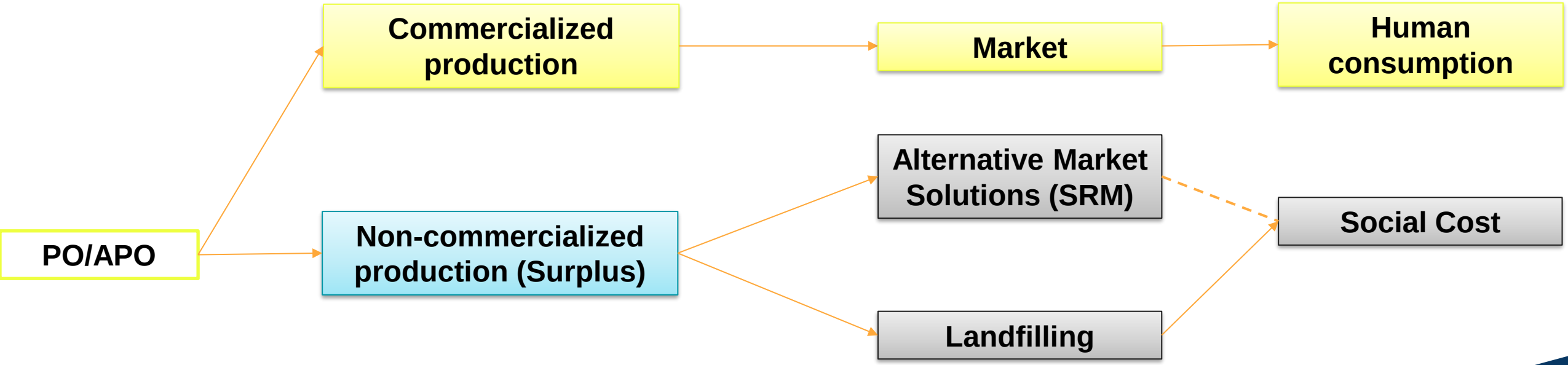
Baseline Scenario



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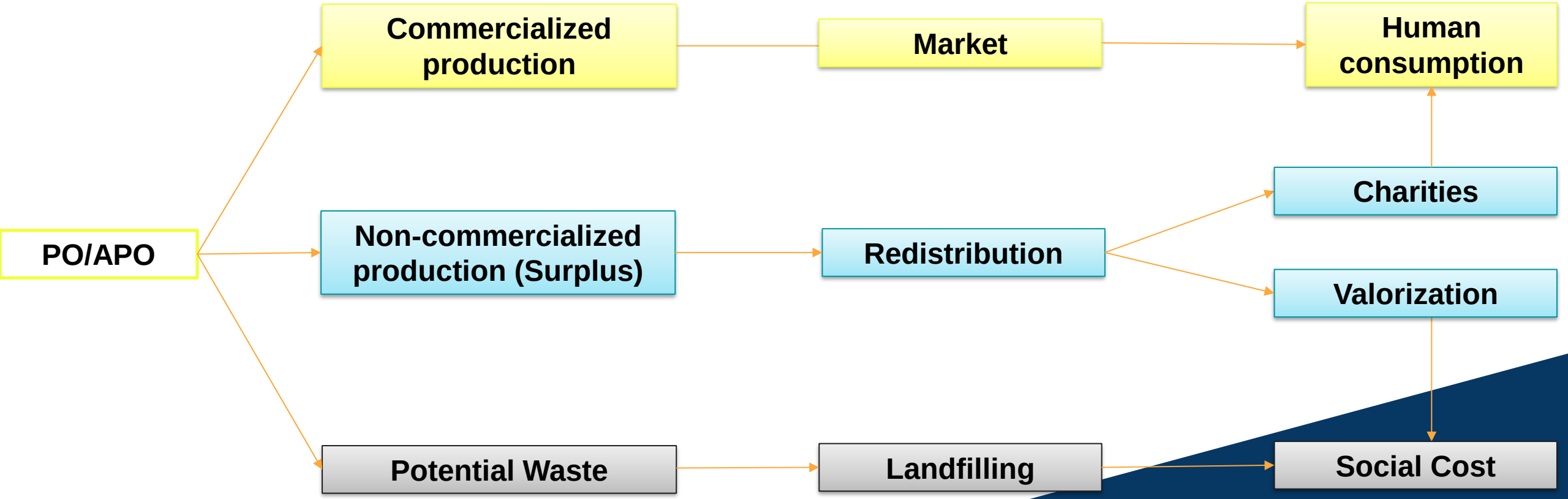
Market Withdrawal Scenario



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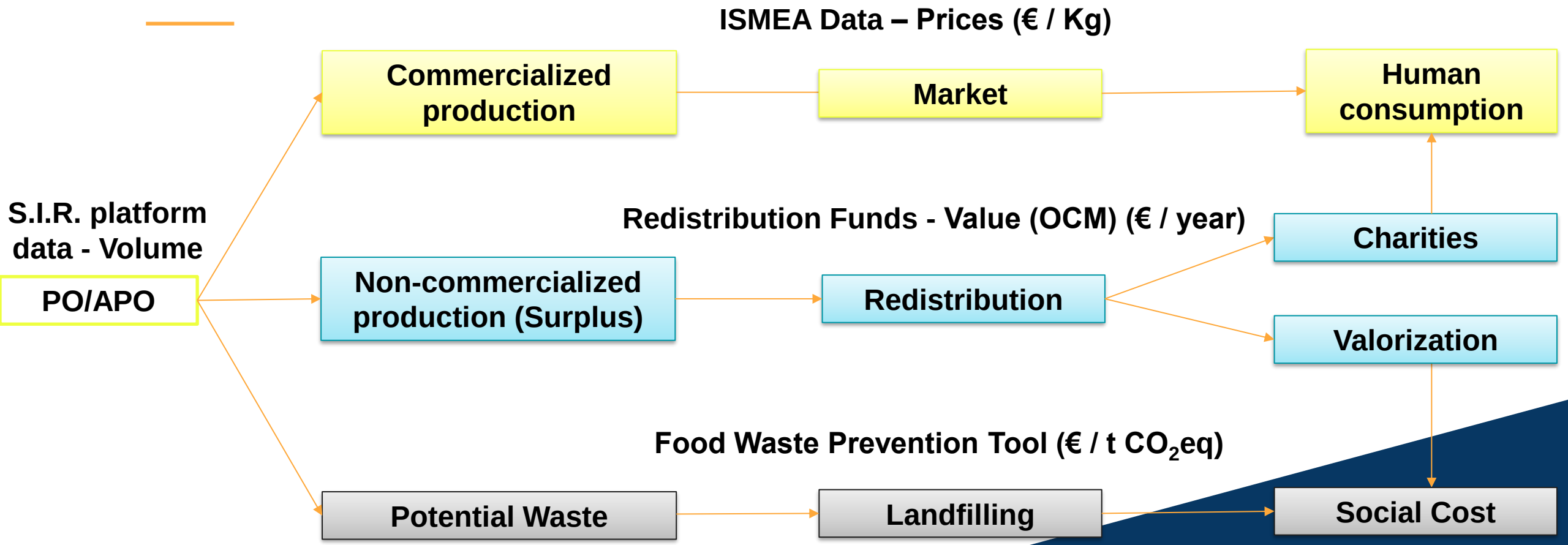
MW Scenario Assessment



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2014 – 2020 assessment

€ 76 M

Commercialized production

Supply chain

€ 194 M

Human consumption

179.000 tons of fresh FV products

PO/APO

$$\sum_{i=n}^{1}(Volume_i * ProductionPrice_i)$$

$$\sum_{i=n}^{1}(Volume_i * MarketPrice_i)$$

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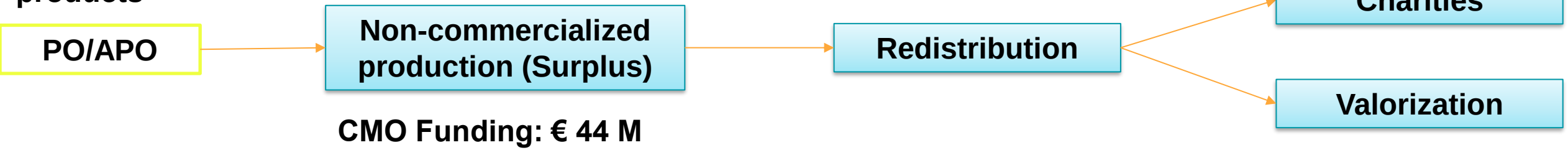
2014 – 2020 assessment

Market Value of food redistributed to charities

$$\sum_{i=n}^{1}(VolumeD_i * MarketPrice_i)$$

€ 128 M

179.000 tons of fresh FV products



CMO Funding: € 44 M

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2014 – 2020 assessment

1) Environmental Cost for Valorization of the total volume = 340,800 t CO_2eq * € 30 = € 10.2 M

2) Environmental Cost for Valorization = 109,000 t CO_2eq * € 30 = € 3.2 M

179.000 tons of fresh FV products

PO/APO → **Non-commercialized production (Surplus)** → **Redistribution** → **Valorization** → **Env. Cost Saving**

Environmental Saving due to redistribution activities = 230,912 t CO_2eq * € 30 = € 7 M

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Comparison between scenarios

	No Crisis	Crisis – No CMO	Crisis + CMO
	Hypothetical – Best	**Hypothetical – Worst**	**Actual Scenario**
Human Consumption Value	€ 194 M	€ (194 M)	€ 128 M
Waste Treatment Value		€ (10.2 M)	€ 7 M
	€ 194 M	€ (204.2 M)	€ 135 M

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Positive Externalities => Value of food donated = € 128 M … **Who is the actor that permit to secure this value?**

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Positive Externalities => Value of food donated = € 128 M … Who is the actor that permit to secure this value?

- Value donated = € 128 M
- CMO = € 33 M
- Farmers = € 65 M - € 33 M = € 32 M
- **Net value = € 128 M - (€ 33 + € 32) = € 63 M**

The collaboration between institutions, farmers and charities!!!

Discussion

- The replication of the S.I.R. platform shall provide in the future a digital tool able to mitigate the impact of crisis related to surplus production and the redistribution of quality food to people

- The social value of redistribution action provided by the CMO provided a leverage effect of 3, meaning that for each € of CMO funds spent the social benefit is of € 3

- This value gained by the PO in form of avoided cost can be a strong incentive for the participation of POs in platform to improve the policy efficacy

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Conclusions

- Thanks to the digitalization of the CMO measure we can assess and monitor the value of food donation compared with food valorization to suggest the “best” social option
- The S.I.R. platform and the data collected facilitate the awareness on the value of the redistribution activities from CMO, strengthening the collaboration of stakeholders
- European citizens can be well informed about the CAP relevance and farmers effort on food surplus saving
- Further analysis will be implemented to overcome the limitations related to the cost and environmental impact due to transportation and logistics of FV donated

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Q&A

Thank you for your attention!

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